PRACTICAL GAME PROGRAMMING

Genre: Tower Defence

- Definition
- Code considerations
- Content considerations

JEFINITION

Player defends home base from invaders using stationary defences.

Originally a Warcraft 3 mod, where you placed towers.

• Many variations, but the basic idea is the same.

TOUER PLACEMENT

- Variations:
 - Freeform
 - Grid
 - Certain positions in the map
- In some games, the point is to create a labyrinth for the monsters
 - The longer they walk, the longer they get shot.

TOUER TYPES

- Typically, you have a selection of different kinds of towers
 - Varied ammunition
 - Different ammo for different beasts
 - Different hurt rate (more expensive turret, more power)
 - Slowdown ammo of some sort
 - Combination of different turrets often more effective than one type alone

ACJUIRING TOUERS

- Towers are usually limited somehow
 - Currency of some sort
 - Fixed budget
 - Some means of getting more
 - Collecting things (plants vs zombies)
 - Bounty from killing monsters
 - Steadily increasing budget
 - Fixed amount of turrets

GAMEPLAY

- TD games are, in practise, limited RTS games.
- Player performs tower placement while enemies are already advancing.
- More often than not, player's defences are far from finished when enemies arrive.
- Enemies often attack in "waves", and after the last "wave", the game resets to the next "level", with a bigger challenge.

CODE CONSIDERATIONS

- Controls
 - Relatively simple, mouse-driven; choose tower, choose location.
- Al
 - Monster AI(s)
 - Tower AI(s)
- Scheduler
 - When should new monsters get spawned?

CONTENT CONSIDERATIONS

• Art

- Interface graphics
- Background graphics
- Sprites
 - Tower graphics
 - Possiby, animation
 - Projectile graphics
 - Impact (explosion) graphics
 - Monster graphics
 - Very likely, animation
 - Possible projectiles and related material

CONTENT CONSIDERATIONS

- Level data
 - For each level, some kind of data structure for:
 - Waves
 - Kinds of monsters
 - Timing
 - Budget or similar data
 - Background graphic?

CONTENT CONSIDERATIONS

- Audio
 - Possible background music
 - Sound effects
 - Interface sounds
 - Building towers etc
 - Other clicking sounds
 - Monster sounds
 - Firing sounds
 - Impact sounds